Culinary Institute of America

TECHNIQUE OF THE QUARTER: EGG COOKERY

Legend has it that the folds on a chef's hat represent the many ways he or she can prepare eggs.

Egg cookery includes a variety of preparation techniques: eggs boiled in the shell, baked eggs, poached eggs, fried eggs, scrambled eggs, three styles of omelets, and soufflés.

BOILED EGGS

The word "boiling," although commonly used, does not correctly explain the technique; "simmering" is more accurate. These egg dishes run the gamut from coddled eggs to hard-boiled eggs. You may see the term "hard-cooked" instead of hard-boiled. In addition to their role in breakfast menus, boiled eggs are used in a number of other preparations. They may be served as cold hors d'oeuvre or canapés, salads, and garnishes.

Selection of Equipment

- pot large enough to hold eggs and water to cover by at least 2 inches
- ice bath to cool eggs after cooking, if necessary
- colander
- containers for holding cooked eggs or heated plates for service

Selection of Ingredients

- whole fresh shell eggs
- water

Technique

1. Place the eggs in a sufficient amount of water to completely submerge them.

- For coddled, soft-, or medium-cooked eggs, bring the water to a simmer first.
- Hard-cooked eggs may start in either boiling or cold water.

2. Bring (or return) the water to a simmer.

- Water at or close to a simmer cooks eggs evenly without toughening the whites.
- The proper cooking temperature produces eggs with a good consistency and texture.
- A rapid boil can crack the eggshells.

3. Start timing the cooking once the water has returned to a simmer.

- For example, a 3-minute egg cooks for 3 minutes once the water has returned to a simmer after the egg has been added to the water.

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Determining Doneness

Eggs cooked in the shell should be properly cooked. The whites should be set but not rubbery. The yolks may be fully set or still quite liquid, depending upon the desired doneness.

Hard-cooked eggs can develop a green ring around the yolk under certain conditions. The green color is the result of a chemical reaction involving the sulphur in the yolk. To keep the yolks evenly yellow, observe the following guidelines:

- ✓ Do not overcook eggs or cook them in water that is boiling too rapidly.
- ✓ Peel eggs as soon as possible once they are cooked.

BAKED EGGS

A great number of preparations fall within this category, including shirred eggs, eggs surla plate, and eggs en cocotte. Because the egg is baked in a container, it can be combined with a number of additional ingredients, from butter, cheese, and cream to vegetables, meats, and sauces.

Changing the size, shape, and material of the baking dish can affect the texture of the finished item, as well as baking time.

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Selection of Equipment

- ramekins, soufflé or gratin dishes
- deep baking sheet or pan for a bain marie
- brush to spread butter

Selection of Ingredients

- whole eggs in the shell (because the egg's appearance is important, the egg must be fresh; the fresher the egg, the less likely the yolk is to break).
- butter
- salt
- pepper
- other garnish or finishing ingredients

Technique

1. Prepare and fill the ramekins

- Warm the ramekins before you fill them; this reduces overall baking time.
- Butter the baking dish generously.
- Add any additional ingredients in an even layer.
- Add the eggs.

2. Bake the eggs in a bain-marie, if desire, until the whites are set and milky in appearance.

Determining Doneness

✓ The yolks should be barely set, thickened but still glossy.

✓ Unmold the eggs; if desired, garnish, and serve while they are still very hot.

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POACHED EGGS

Poached eggs are the foundation of such popular breakfast and brunch dishes as Eggs Benedict. They can be served on top of hash, in baked potatoes, on croutons or toasted bread, or on their own, with or without a sauce.

Poached eggs offer the busy kitchen an opportunity to do some advance preparation to ease the workload during service.

Eggs that have been poached (but left slightly underdone) can be trimmed, held in cold water, and then reheated in simmering water.

Selection of Equipment

- Wide, relatively deep pot
- a slotted spoon, skimmer, or spider
- cup to hold shelled eggs
- absorbent toweling
- small knife or scissors to trim edges (optional)

Selection of Ingredients

The fresher the egg, the more centered the yolk will be and the less likely the white is to spread and become ragged during cooking. A small amount of acid (vinegar) keeps the egg whites from spreading for attractive, regular shape.

- Eggs
- Water
- Salt
- Acid (typically white vinegar)

Technique

1. Bring water to a simmer.

- The water should be at least 6 inches deep for even cooking and a good appearance.
- Add ½ fluid ounce/15 milliliters of vinegar to each quart of water.

2. Add the shelled egg to the simmering water.

- Break the egg into a cup to make it easy to slide the egg into the simmering water.
- If the egg yolk breaks in the cup, reserve the egg for another use (scrambled eggs, quiche, custard, egg wash, or as an ingredient in a batter or dough).
- Note: When poaching large quantities for buffet or banquet service, you may find it more efficient to break the eggs directly into the simmering water.

3. Remove the egg once the white is set and opaque and the yolk is barely set.

- Use a slotted spoon, skimmer, or spider.
- Drain the eggs in a perforated hotel pan or blot them on absorbent toweling to remove as much water as possible.
- If necessary, trim the egg white with the edge of a spatula or a palette knife to give a neat appearance.
- If the eggs are to be held, immediately place them in cold water.
- Reheat cooled eggs by lowering them into simmering water for about 30 seconds.

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4. Serve the poached eggs.

- Serve poached eggs when they are very hot.
- Be sure that all accompaniments, sauces, and garnishes are at the correct temperaturefor service.
- Serve on heated plates.

Determining Doneness

✓ A poached egg should be very tender with a teardrop shape.

✓ Whites are set but very tender.

✓ Yolks slightly thickened but still flowing.

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FRIED EGGS

Frying is a typically American or English way of preparing and serving eggs. To prepare fried eggs with yolks that are high and centered, use perfectly fresh eggs, the correct heat level, and an appropriate amount of cooking fat.

Selection of Equipment

- griddle or sauté pan (nonstick surfaces are useful)
- spatula or palette knife
- cups to hold shelled eggs
- heated plates for service

Selection of Ingredients

- very fresh eggs
- butter, oil, or other cooking fat
- salt and pepper
- additional garnishes and accompaniments as required

Technique

1. Heat the pan and the cooking fat over moderate heat.

- If the heat is too low, the egg may stick to the griddle or sauté pan.
- If the heat is too high, the white's edges may blister and brown before the rest of the egg is properly cooked.

2. Slide or break the egg into the hot fat.

- Breaking the egg first into a cup helps to avoid broken yolks.

2. Cook the egg to the appropriate doneness.

- Turn eggs to be prepared "over" with an offset spatula or palette knife.
- Some chefs prefer to baste the egg with hot fat to set the top instead of turning it.
- Another alternative is to sprinkle a few drops of water on the egg, cover the pan, and let the captured steam cook the upper surface of the egg.
- Serve the eggs very hot on heated plates with the appropriate accompaniments and garnishes.

Determining Doneness

✓ Fried eggs should have unbroken yolks, cooked to the doneness requested by the customer.

✓ Whites should be firm, but not rubbery.

"Sunny-side up"	The egg is not turned. The white is cooked through; yolk is bright yellow, still soft and runny
"Over easy"	The egg is turned or flipped; the white is cooked through; yolk still runny
“Over medium"	The egg is turned or flipped; yolk slightly thickened but still flowing
“Over hard"	The egg is turned or flipped; yolk completely set

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SCRAMBLED EGGS

Scrambled eggs are among the most popular of breakfast dishes. Eggs are taken from the shell, mixed until blended, and then stirred over moderate heat until they set into soft curds. It is essential that scrambled eggs be served while they are very hot, fresh, and moist.

Selection of Equipment

- sauté pan or griddle
- bowl and fork or whip for mixing
- heated plates for service

Selection of Ingredients

- whole eggs
- salt and pepper
- cream, milk, stock, or water (optional)
- additional garnishes and accompaniments as required

Technique

1. Blend the eggs just until the yolks and whites are combined.

- Use a whip to blend them into a homogeneous mixture, but do not whip in too much air.
- Add a small amount of cream, milk, stock, or water to the beaten eggs for additional lightness and moisture; use no more than 1 teaspoon additional liquid for each egg.
- Add salt, pepper, and other flavoring ingredients, such as fresh herbs or ground spices, if appropriate.

2. Heat the pan or griddle and the cooking fat over moderate heat before adding the eggs.

- Stir and scrape the eggs as they cook to release them from the pan's bottom and sides for a creamy texture and small curds.
- Eggs should not become browned.
- Add any appropriate garnishes or flavoring ingredients (for example, cheese, sautéed onions, peppers, or herbs) when the eggs are almost completely cooked.

3. Once the eggs are properly cooked, serve them immediately on heated plates or on a buffet line.

- For the best possible result, prepare scrambled eggs to order.
- If they must be made in large amounts, as for buffets, replace them with freshly scrambled eggs before they begin to "weep" or take on a brassy yellow color.

Determining Doneness

✓ Scrambled eggs should have a light texture, creamy consistency, and delicate flavor.

✓ Look for an even, bright yellow color and no browning.

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OMELETS

A perfect omelet softly set and bright yellow, is one of the traditional tests of a chef's skill, requiring an ability to control heat properly as you cook eggs. They also require dexterity as you keep the eggs in motion throughout cooking time. Once the basic omelet is mastered, it can be varied to include garnishes such as the ham shown here that is cooked along with the eggs, and fillings such as cheese, mushrooms, or sautéed vegetables that are rolled into the omelet once it is properly set. You can also serve omelets with a sauce.

There are three basic omelet styles.

- The rolled, or French-style, omelet has been described by Auguste Escoffier as "really a special type of scrambled egg enclosed in an envelope of coagulated egg."
- Flat omelets, known variously as farmer-style omelets, frittatas (Italian), or tortillas (Spanish), are a baked version.
- Soufflèed or puffy omelets are baked; they are similar in texture to soufflés.

ROLLED OMELETS

The rolled omelet is probably the style of omelet that comes to mind first. The eggs are blended and then cooked over moderate heat until set then rolled into an oval; they often include a filling. Rolled omelets are most commonly made to order in individual portions. In fact, many breakfast and brunch buffets have cooks stationed on the line to prepare omelets.

Selection of Equipment

- omelet pan (blue steel or nonstick), sauté pan or griddle
- bowl and fork or whip for mixing
- heated plates for service

Selection of Ingredients

- whole eggs
- salt and pepper
- cream, milk, stock, or water (optional)
- additional garnishes and fillings as required

Technique

1. Blend the eggs until the whites and yolks form a homogeneous mixture, as for scrambled eggs.

- Pour or ladle an appropriate amount of the egg mixture into a properly heated and oiled omelet pan.
- Omelets are cooked over moderate heat: just high enough to assure that the eggs begin to set almost immediately, but not so low that the eggs stick to the pan.
- Keep the pan and the eggs in constant motion as the omelet cooks.
- Use one hand to swirl the pan over the heat source and the other to stir and scrape the eggs from the pan's bottom and sides.
- A table fork is often used, with the bowl of the fork against the bottom of the omelet pan. Use wooden or plastic utensils with nonstick pans, however.

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2. Cook the eggs until soft curds begin to form and then spread the eggs in an even layer.

- Continue to cook without stirring for a few seconds, so that a smooth skin can form.
- Add any filling at this point.
- The filling should be properly cooked and at the correct temperature to avoid cooling the omelet.
- Cheeses will melt sufficiently from the eggs' heat.
- The filling may be placed on the omelet before it is rolled, or the omelet may be slit and filled after it has been rolled.

3. Roll the omelet out of the pan, completely encasing any filling, directly onto a heated plate.

Determining Doneness

✓ A rolled omelet should be golden-yellow with a creamy, moist interior.

✓ Filling, if any, should be very hot.

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FLAT OMELETS

Flat omelets may be made either as individual portions or in larger quantities. They are started over direct heat, just long enough to set the eggs on the bottom and sides of the pan, then baked. Flat omelets can be cut or sliced into portions, which means they can be prepared in large batches as you would for a buffet or banquet service.

Selection of Equipment

For individual portions, use small sauté or omelet pans.

- For the multi-serving flat omelets, use large skillets or hotel pans.
- Bowl and fork or whip to mix eggs.
- Heated plates for service.

Selection of Ingredients

- Prepare the eggs as for scrambled eggs.
- Salt, pepper, and other seasonings.
- Additional garnish ingredients may need to be cut or grated. Some may be fully or partially cooked before preparing the flat omelet; see recipes for guidance.

Technique

1. Heat the pan over direct heat and add oil or other cooking fat. Preheat the oven.

2. Add appropriate garnish ingredients and then the eggs to the pan.

- Add garnish ingredients like onions, peppers, potatoes, or ham to the pan first in order to properly cook and heat them.
- Add the egg mixture and cook over gentle heat without stirring until the edges of the omelet are set.

3. Place the pan or skillet in a hot oven and cook until the eggs are fully set.

- The cooking time varies, depending on the size and depth of the skillet and on the recipe's yield.
- The omelet will appear slightly puffy.
- Additional garnish ingredients, such as grated cheese, may be used to top the omelet; these are added a few minutes before it is done.
- A skewer inserted near the flat omelet's center should come away clean.
- If desired, the omelet may be lightly browned under a broiler or salamander.

Determining Doneness

✓ Eggs fully cooked but evenly moist and tender throughout.
✓ Garnish ingredients very hot.
✓ Well-seasoned.

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SOUFFLÉED OR PUFFY OMELETS

Like a soufflé, these omelets have a light, fluffy texture that is achieved by incorporating the eggs, then whipping the whites to soft peaks. The yolks and whites are folded together and the omelet is baked until puffed.

Selection of Equipment

- For individual portions, use small sauté or omelet pans.
- For the multi-serving flat omelets, use large skillets or hotel pans.
- Containers to hold separated eggs (as well as whites that have bits of yolk; these whites can be reserved for another use)
- Clean bowl and whip to beat egg whites
- Large bowl to fold together the yolks and whites
- Spatula (rubber scraper) to fold together yolks and whites

Selection of Ingredients

- Separate the eggs and blend the yolks until they are smooth.
- Add seasonings or garnish ingredients (for example, cooked, chopped spinach or grated cheese) to the yolks.
- Whip the egg whites to a soft peak and fold them into the yolks.

Technique

1. Thoroughly heat a buttered or oiled skillet or hotel pan over moderate heat. Preheat the oven.

- Add the egg mixture and cook it on the stovetop until the edges and the bottom are set.
- Regulate the heat carefully to avoid browning the bottom of the eggs.

2. Place the skillet or pan in a hot oven to complete the cooking.

- Cooking time varies according to the size and depth of the skillet and the recipe's yield.
- When properly cooked, a skewer inserted into its center comes away clean.
- Serve at once.

Determining Doneness

✓ Flavorful and well seasoned.
✓ Very hot and puffy.
✓ A light, evenly moist, and tender texture.

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QUICHE

A quiche is a savory custard baked in a crust. A variety of ingredients can be added to the custard filling, such as cheese, bacon, seafood, spinach, or herbs.

Selection of Equipment

- oven
- pie pan
- bowls and whips for mixing custard
- heated plates for service

Selection of Ingredients

- pie crust, baked blind
- custard (cream, or a mixture of cream and milk)
- seasonings
- garnish ingredients as required

Technique

1. Preheat the oven.

2. Blend the eggs with milk or cream to make a smooth mixture.

- The usual ratio for a quiche is 6 to 8 eggs for each quart of liquid.
- Add appropriate seasonings and garnish ingredients to the egg mixture.

3. Fill the crust

- Add the garnish ingredients to the prepared crust in an even layer.
- Pour the egg mixture over the garnish ingredients.
- Set the filled pans on baking sheets to make it easier to get them in and out of the oven without spilling.

4. Bake the quiche in a moderate oven until the custard is set.

- Insert a knife tip or skewer near the quiche's center; it should come away clean.

5. Let the quiche rest for a few moments before cutting and serving it.

- If the quiche is cut too soon after coming from the oven, the slices will not hold their shape.
- Quiche can be served hot or warm.
- It may also be prepared in advance, cooled and refrigerated, and then briefly reheated in a microwave or conventional oven prior to service.

Determining Doneness

✓ Custard set, but still soft
✓ No deep cracks in the surface of the quiche
✓ Crust golden and flaky, fully baked
✓ Properly seasoned

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SOUFFLÉS

Soufflés require careful technique and timing. A typical individual soufflé takes about 18 minutes to bake, a timeframe that is longer than most other egg dishes. They cannot be prepared in advanced and held. You are more likely to find soufflés on luncheon or dinner menus than at breakfast.

The kitchen staff and the front of the house must communicate well, to assure that the guest receives the soufflé while it is still puffy and hot.

Selection of Equipment

- Soufflé cups with straight sides
- Containers to hold separated eggs (as well as whites that have bits of yolk; these whites can be reserved for another use)
- Clean bowl and whip to beat egg whites
- Large bowl to fold together the soufflé base and the whites
- Spatula (rubber scraper) to fold together the soufflé.
- Baking sheet to hold soufflé cups.

Selection of Ingredients

- Clean egg whites, room temperature for best volume
- A heavy béchamel enriched with egg yolks
- Flavorings or garnishes as required.

Technique

1. Preheat the oven and prepare the soufflé molds.

- Soufflés bake in hot ovens, 425° F/218° C.
- Position the rack in the upper third of the oven.
- Brush the inside of soufflé molds with softened butter.
- Dust with Parmesan.

2. Prepare the soufflé base

- Have the base at room temperature or work it with a wooden spoon until softened.
- Add the flavoring, which should also be at room temperature and blend evenly. We use grated Gruyère in the benchmark recipe, but there are many other options: chopped spinach, pesto, minced ham or chicken, for example.

3. Whip the egg whites to a soft peak.

- Do not overbeat the whites.
- Soft peaks will produce the proper rise, texture, and structure in the finished soufflé..

4. Fold the egg whites into the base.

- Add about 1/4 to 1/3 of the whites to the base and fold them together. The first addition lightens the base, and so you retain the greatest volume with the subsequent additions.
- Fold in the remaining whites in another one or two additions..

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5. Fill the prepared molds quickly.

- Fill individual molds to within 1/4 inch of the mold's top.
- Wipe the rims and outside of the mold clean.

6. Place the soufflés immediately in a hot oven and bake until done..

- For even cooking and a good rise, place the molds on a sheet pan with a little water.
- Do not disturb the soufflés as they bake.
- The oven's temperature will drop if you open the oven door.
- Banging the oven door might cause soufflés to fall.
- Check individual savory and dessert soufflés made with a béchamel or pastry cream base after 16 to 18 minutes.

7. Serve the soufflé immediately.

- Place the soufflé on a dish with an underliner, so it does not slide.
- The server should be standing by with a tray, underliner plates, and the sauce, ready to serve the soufflés as soon as they come from the oven.

Determining Doneness

✓ Soufflé rises well above the rim of the mold
✓ The top is level.
✓ Soufflé is very hot, moist, and very light in texture.

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